

WHAT IS CLAIMED IS:

1. An inkjet recording head which scans in a direction intersecting a conveyance direction of a recording medium and records an image on the recording medium with ink drops ejected from nozzles, the inkjet recording head comprising:

a nozzle plate in which the nozzles which eject the ink drops are formed;

pressure chambers communicating with the nozzles;

actuators abutting at the pressure chambers, which at least one of increase and reduce pressures of ink in the pressure chambers; and

a nozzle row parallel to the conveyance direction of the recording medium, wherein the inkjet recording head includes a plurality of nozzle groups structured by dividing up the nozzle row, and

the nozzles of the nozzle row include opposing nozzles which are disposed at a boundary between neighboring nozzle groups which neighbor in the row direction of the nozzle row, the actuators include opposing actuators, which respectively correspond to the opposing nozzles, and actuators within the nozzle groups, which respectively correspond to nozzles neighboring the opposing nozzles in the row direction, and a separation between the opposing actuators disposed at the boundary is equal to or greater than separations between the opposing actuators and the actuators neighboring the opposing actuators in the row direction within the nozzle groups.

2. An inkjet recording head which records an image with ink drops ejected from nozzles over a width of a recording medium which is being conveyed, the

inkjet recording head comprising:

a nozzle plate in which the nozzles which eject the ink drops are formed;

pressure chambers communicating with the nozzles;

actuators abutting at the pressure chambers, which at least one of increase and reduce pressures of ink in the pressure chambers; and

a nozzle row in a direction intersecting the conveyance direction of the recording medium,

wherein the inkjet recording head includes a plurality of nozzle groups structured by dividing up the nozzle row, and

the nozzles of the nozzle row include opposing nozzles which are disposed at a boundary between neighboring nozzle groups which neighbor in the row direction of the nozzle row, the actuators include opposing actuators, which respectively correspond to the opposing nozzles, and actuators within the nozzle groups, which respectively correspond to nozzles neighboring the opposing nozzles in the row direction, and a separation between the opposing actuators disposed at the boundary is equal to or greater than separations between the opposing actuators and the actuators neighboring the opposing actuators in the row direction within the nozzle groups.

3. The inkjet recording head of claim 1, wherein arrangement forms of the nozzles of the nozzle groups comprise, when straight lines are taken between the nozzles disposed at outer edges of the nozzle groups, at least one of a triangular form, a parallelogram form and a trapezoid form.

4. The inkjet recording head of claim 3, wherein the arrangement forms of the

nozzle groups comprise a combination of forms including at least one of the triangular form, the parallelogram form and the trapezoid form.

5. The inkjet recording head of claim 1, wherein a nozzle pitch of the nozzles of the nozzle groups in the row direction is the same as a spacing between the nozzles disposed at the boundary between the neighboring nozzle groups.

6. The inkjet recording head of claim 1, wherein the opposing actuators, borders of which oppose the boundary between the neighboring nozzle groups, comprise point symmetry.

7. The inkjet recording head of claim 1, wherein the opposing actuators, borders of which oppose the boundary between the neighboring nozzle groups, comprise line symmetry.

8. The inkjet recording head of claim 1, further comprising an actuator unit for each nozzle group, the actuator unit being structured to include at least the pressure chambers and the actuators respectively corresponding to the nozzles constituting the nozzle groups.

9. The inkjet recording head of claim 8, wherein each nozzle group is provided with an ink discharge unit including at least the nozzle plate and the actuator unit.

10. The inkjet recording head of claim 1, wherein the actuators of each nozzle

group are disposed with an orientation the same as the actuators disposed at the boundary of the nozzle group.

11. The inkjet recording head of claim 1, wherein positions of the actuators within each nozzle group comprise point symmetry, with a center of the nozzle group as the point of symmetry thereof.

12. The inkjet recording head of claim 1, wherein the actuators comprise piezoelectric elements for converting electrical energy to mechanical energy.

13. The inkjet recording head of claim 1, wherein the actuators comprise heat-generating resistors which pressurize the ink in the pressure chambers by heating and causing bubbling.

14. The inkjet recording head of claim 1, wherein an n-th row of one of the nozzle groups, n being an arbitrary integer of at least 1, is aligned with the n-th row of another of the nozzle groups rather than being offset, the other nozzle group neighboring the one nozzle group in the row direction.

15. An inkjet recording head which scans in a direction intersecting a conveyance direction of a recording medium and records an image on the recording medium with ink drops ejected from nozzles, the inkjet recording head comprising:

a nozzle plate in which the nozzles which eject the ink drops are formed;
pressure chambers communicating with the nozzles;

actuators abutting at the pressure chambers, which at least one of increase and reduce pressures of ink in the pressure chambers; and

a nozzle row parallel to the conveyance direction of the recording medium, wherein the inkjet recording head includes a plurality of nozzle groups structured by dividing up the nozzle row, and positions of the actuators within the nozzle groups include point symmetry, with a center of the nozzle group as the point of symmetry thereof.

16. The inkjet recording head of claim 15, wherein an n-th row of one of the nozzle groups, n being an arbitrary integer of at least 1, is aligned with the n-th row of another of the nozzle groups rather than being offset, the other nozzle group neighboring the one nozzle group in the direction of the row.

17. An inkjet recording head which records an image with ink drops ejected from nozzles over a width of a recording medium which is being conveyed, the inkjet recording head comprising:

a nozzle plate in which the nozzles which eject the ink drops are formed;

pressure chambers communicating with the nozzles;

actuators abutting at the pressure chambers, which at least one of increase and reduce pressures of ink in the pressure chambers; and

a nozzle row in a direction intersecting the conveyance direction of the recording medium,

wherein the inkjet recording head includes a plurality of nozzle groups structured by dividing up the nozzle row, and

positions of the actuators within the nozzle groups include point symmetry,

with a center of the nozzle group as the point of symmetry thereof.

18. The inkjet recording head of claim 17, wherein an n-th row of one of the nozzle groups, n being an arbitrary integer of at least 1, is aligned with the n-th row of another of the nozzle groups rather than being offset, the other nozzle group neighboring the one nozzle group in the row direction.

19. An inkjet recording device employing the inkjet recording head of claim 1.

20. An inkjet recording device employing the inkjet recording head of claim 15.